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ROCKS and MINERALS

A Magazine for Mineralogists, Geologists and Collectors

42

ROCKS & MINERALS ASS'N.
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Official Journal of the Rocks and Minerals Association

October, 1941

Vol. 16, No. 10 **25c** Whole No. 123

THE ROCKS AND MINERALS ASSOCIATION

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Organized in 1928 for the increase and dissemination of mineralogic knowledge

To stimulate public interest in geology and mineralogy and to endeavor to have courses in these subjects introduced in the curricula of the public school systems; to revive a general interest in minerals and mineral collecting; to instruct beginners as to how a collection can be made and cared for; to keep an accurate and permanent record of all mineral localities and minerals found there and to print same for distribution; to encourage the search for new minerals that have not yet been discovered; and to endeavor to secure the practical conservation of mineral localities and unusual rock formations.

Ever since its foundation in 1928, the Rocks and Minerals Association has done much to promote the interest in mineralogy. It has sponsored outings, expeditions, formations of mineralogical clubs and the printing of many articles that have been a distinct contribution to mineralogy.

Those of our readers who are members of the Association can rightly feel that they too were sponsors of these many achievements that have helped to give mineralogy a national recognition. Among your friends there must be many who would like to have a part in the Association's work—to share with you the personal satisfaction, the pleasure, and the benefits of membership. Will you give your friends this opportunity to join the Association by nominating them for membership?

Each new member helps to extend the Association's activities—helps to make your magazine larger, better, and more interesting, and above all assists in the dissemination of mineralogical knowledge.

Some advantages of memberships: All members in good standing receive:

(1) **Rocks and Minerals**, a monthly magazine. (2) A member's identification card that secures the privileges of many mines, quarries, clubs, societies, museums, libraries. (3) The right to participate in outings and meetings arranged by the Association. (4) the right to display a certificate of membership and to place after their names a designation indicating their membership or to advertise membership on stationery, etc. (5) The distinction and the endorsement which comes from membership in the world's largest mineralogical society.

Mineralogical clubs which subscribe for **Rocks and Minerals** also become affiliated members of the Rocks and Mineral Association and enjoy all the advantages which such an affiliation affords.

A number of clubs hold membership in the Association, participate in the annual outings, and co-operate in many ways in furthering the aims and ambitions of the Association.

Affiliation with the world's largest mineralogical society cannot fail to increase membership, enlarge circles of acquaintanceship, and stimulate a keener interest in mineralogy.

A list of affiliated clubs will be found among the back pages of the magazine.

Rocks and Minerals

PUBLISHED MONTHLY

Edited and Published by PETER ZODAC

October 1941

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ROCKS and MINERALS PEEKSKILL, N. Y., U. S. A.

The Official Journal of the Rocks and Minerals Association

Chips From The Quarry

15 YEARS, 1 MONTH OLD

In the issuance of this number, *Rocks and Minerals* has passed a new milestone in the history of mineral magazines. It is the oldest mineral collector's magazine in American history. The only other magazine to almost approach this record was the *Mineral Collector,* published by Arthur Chamberlain, of New York City. It is a matter of interest that both magazines made their appearance in New York State.

The Mineral Collector flourished from March, 1894, to February, 1909, exactly 15 years. The total number of pages printed by this magazine was approximately 4,000. It printed articles on 45 states (Alabama, Mississippi, and South Carolina missing. also the District of Columbia) : on Alaska, Hawaii, Philippine Islands, and Porto Rico; also on 44 foreign countries.

Rocks and Minerals for the same period, 15 years, printed articles on 46 states (Louisiana and North Dakota missing) : on the District of Columbia; on Alaska, Canal Zone, Guam, and Hawaii; and on 40 foreign countries. The total number of pages printed was likewise approximately 4,000.

At the end of its 15th year, the *Mineral Collector* ceased publication never to appear again. This was a severe blow to mineral collecting as the magazine was a very good one, full of interesting articles and dealers' ads. Those collectors who now have a complete set of the magazine are most fortunate.

At the end of its 15th year (September, 1941), *Rocks and Minerals* is enjoying good health and prosperity and even laying plans that might carry it for an additional 15 years. Just what the future holds for the magazine we of course have no idea but if our subscribers and dealers will continue to give us their loyal support we have nothing to worry about. In the past we have made many warm friends—some of whom have passed on to their reward but who will always be gratefully remembered. We are hopeful that as we grow in age and wisdom and experience that many more friends may be acquired to help swell the large number we already claim as our own. Wealth and honor may be great assets to any individual but they can never balance the great weight of love and esteem of true friends.

Rocks and Minerals is now 15 years, 1 month old. We still have on our subscription list a number of friends who have been with us since the first issue made its appearance. We are equally sure that many of them will be with us when the magazine's 30th anniversary is reached.

Peter Zodac

-REFERENCES-

Rocas Eruptivas - Eruptive Rocks
—·—·— Terciary Formation to the N.S.
Serpentine. Granite Syenite to the E
Salt. - T.S. = Termal Spring
Ph. Fosphates.

-REFERENCES-

Az. Sulphur
Amber
Gypsum
Cinabrio
Grafito

Pl. Platinum
Galena
Galena
+ Limon
* Piyite

UNIV. OF MICH.

MAP OF PORTO RICO

NATURAL RESOURCES OF THE ISLAND.

REFERENCES

- Power House
- Iron
- Copper
- Lignite
- Manganese
- Auriferous Placers
- Waterfall
- Cave
- Brick Pottery and Tile Clay
- Kaolin
- Sugar Factory

REFERENCE

- Rios — Rive
- Ciudades — Citi
- Pueblos — Vill
- Faros — Ligh
- Deposito de Ag

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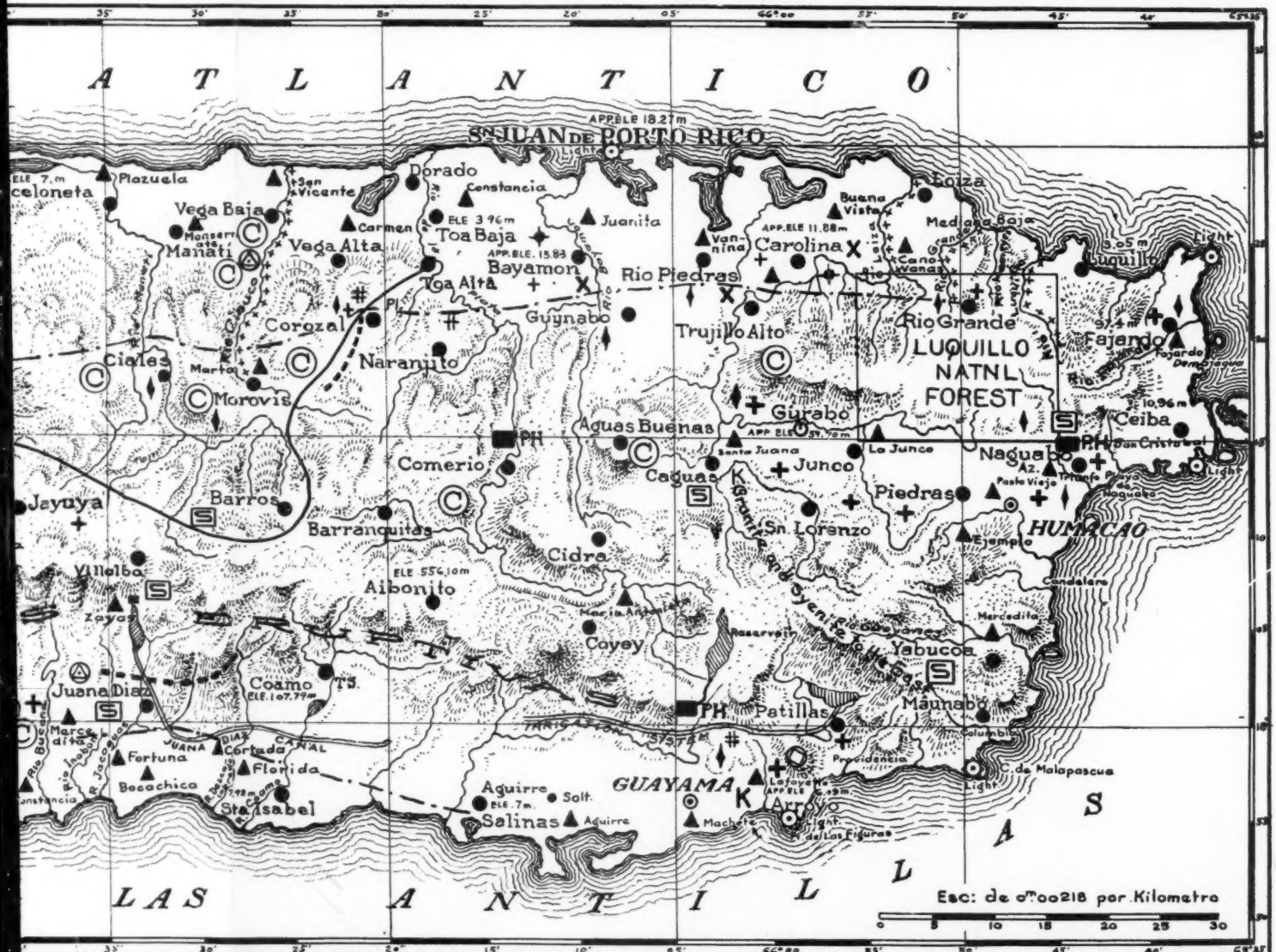
URAL RESOURCES OF THE ISLAND.



REFERENCES

- Power House
- Iron
- Copper
- Lignite
- Manganese
- Aurifereus Placers
- Waterfall
- Cave
- X Brick Pottery and Tile Clay
- K Caolin
- Sugar Factory

REFERENCIAS

- Rios Rivers.
- Ciudades-Cities
- Pueblos – villages
- Faros — Light Houses
- Deposito de Agua – Reserv.

DEPARTMENT OF AGRICULTURE AND LABOR

RAMON GANDIA CORDOVA

SAN JUAN, P. R. ABRIL · 1920

Alfonso Gomez Briceño

Rocks and Minerals

PUBLISHED MONTHLY

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October 1941

Vol. 16, No. 10

The Official Journal of the ROCKS and MINERALS ASSOCIATION

Whole No. 123

MINERALS OF PORTO RICO

By HORATIO C. RAY

Bureau of Mines, San Juan, P. R.

Porto Rico[1] cannot be considered as a treasure trove for the mineralogist, especially for those who are interested in crystals and precious or semi-precious stones but at the same time it does offer a rather wide variety of minerals and the search for them can be carried on under such ideal conditions of climate —especially during the harsh winter months of the north—with a wonderful scenic and touristic background, that we have often wondered why more visitors do not come to the Island for this purpose. If ignorance of the mineral occurrences of the Island is the reason, we hope that this article may be the means of reawakening a new interest in Porto Rico.

In the first place it may be said, since the Island is relatively small, approximately 100 miles long by 40 miles wide, that most localities can be reached in one days ride from any of the larger cities as San Juan, Ponce, and Mayaguez. The Island is crisscrossed by a series of paved roads, over which busses or public cars travel daily and whose rates are amazingly cheap. There is also a railroad which reaches all the principal towns of the northern, western and southwestern coast lands. In the smaller towns, hotel accommodations can always be had and though they may not be fancy they are clean and comfortable. Food in these hotels is plentiful and varied but of Porto Rico cuisine but which, we are sure, any healthy collector will find palatable and nourishing. If you are planning a mineralogical vacation, buy a ticket for Porto Rico and look forward to a most delightful experience collecting minerals on this beautiful West Indies island, a United States possession.

For purposes of discussion we will divide the minerals found in Porto Rico into three classes, metallatic, non- metallic, and rock forming minerals. The list here given is doubtlessly not complete, for the purpose of the Bureau of Mines is not to search for mineral specimens but for mineral deposits of commercial grade.

Metallic Minerals

Gold: Gold is found in many of the streams of the interior and it is constantly being washed out in small quantities by the natives. Due to the exhaustive work of the early Spaniards, however, there are now no commercially workable deposits except, possibly, the deep gravels of the coastal plains. Many beautiful specimens of gold have been found which include crystals, nuggets, and those associated with quartz. It would be simple for a collector to pan his own specimens if he were to spend a day or two at this intriguing occupation.

The best region for gold nuggets is around Corozal and the neighboring town of Naranjito in the north central part of the Island. Mr. Boa, the principal druggist of Coroza[1], buys much of the gold of the region and nearly always has quite a bottle full on hand. Sometimes very nice nuggets and at times

1 Porto Rico is the English name for the island, Puerto Rico (rich port) is the Spanish name.

beautiful crystals are turned up in this way. He will sell them at their gold value.

The area around San German, in the southwestern part of the Island, is the most important from a mining standpoint.

Copper: Copper is the most widespread of all the metals on the Island though to date no commercial deposits have been found. The following copper minerals have been seen by the writer: azurite, bornite, chalcocite, chalcopyrite, chrysocolla, cuprite, malachite, and tetrahedrite. The only crystals of these minerals seen are small ones of chalcopyrite found near Comerio, east center of the Island, and of azurite and malachite found near Ciales; (north center of the Island) some especially beautiful crystals of azurite have been found at this locality, the writer has one that is about 5/8" long. In the Ciales region, the copper minerals carry considerable silver; beautiful clusters of small crystals of orpiment have also been found in this region.

In Dana's *System of Mineralogy*, 6th Ed. p. 1046 (John Wiley & Sons, New York City), Resanite, a hydrous silicate of copper and iron, massive, olive-green color, is listed as being found with malachite and chrysocolla at Luquillo, Porto Rico, and named for Dom Pedro Resano. I never heard of this mineral before. Certainly nothing is known of it here; even an old man who should know claims no knowledge of it. Luquillo is southeast of San Juan. At one time a small copper mine was operated there in a very inaccessible section. During our last big hurricane the cliff slid down and no trace of the mine now exists except for a little malachite visible below.

Lead and Zinc: Lead minerals have been found in several sections of the Island but usually rather finely disseminated. Near Ciales, a deposit of galena and sphalerite occurs from which interesting specimens of both minerals may be collected. The galena is usually of a fine-grained, steel-colored variety at times showing its characteristic cleavage. No crystals of either minerals have been found.

Recently sphalerite has been found southeast of the town of Jayuya, center of Island, in a calcite vein associated with a small amount of chalcopyrite. No galena has been found in the ore. Small gold and silver values are present.

Iron: The following minerals of iron have been observed on the Island: pyrite, marcasite, magnetite, hematite and limonite. Pyrite is widely scattered over the Island and crystals of it are readily found though rarely more than an inch in diameter. Several forms of massive pyrite are found, one occurring with crystalline calcite resembles very closely the pyrite from Rio Tinto, Spain. Clusters of marcasite are found near Utuado, (west center of the Island) indeed this is the chief locality for the mineral on the Island.

Magnetite is found in abundance and possibly forms the basis of one or two commercially workable deposits. It is of a very hard massive variety, although near Ponce, (southern part of the Island) crystals an inch or more in size and of good quality have been found. Several pseudomorphs of magnetite after pyrite have been found there.

Hematite is found in soft, hard and specular varieties. There are specially large amounts of the latter near Patillas, (in southeastern Porto Rico). In this same region, bright mirror-like tabular crystals have been found in forms resembling a cock's comb.

Limonite is mostly of a soft, earthy variety. However, near Mayaguez, in western Porto Rico, near coast, goethite and other hard varieties have been observed. A few pseudomorphs after pyrite have been found near Aguada, in northwestern Porto Rico.

Manganese: It is said that the United States Geological Survey has recognized nearly every known manganese mineral in Porto Rico but the writer has definitely recognized only the following varieties: pyrolusite, psilomelane, manganite, wad, rhodochrosite, and rhodonite. The first two and the last are by far the most common. A few small crystals of pyrolusite have been noticed but none of any of

the other minerals. At Juana Diaz, in the southern part of the Island, a mine, with a small annual production, was operated for many years. Many interesting forms of the minerals, stalactitic and botryoidal, have been observed.

Very fine specimens of pyrolusite occur on the farm of a Senor Mercado near Las Marias (in western part of the Island) although somewhat more accessible from Maricao.

Mercury: Cinnabar is said to have been discovered in several places but the writer never found a specimen at any of the points indicated.

Platinum: Native platinum and other platinum minerals have been found mixed with the gold near Corozal but the amount is small and has been sold with the gold, as a rule.

Tin: Tin is found in a copper ore near the town of Corozal in the north central part of the Island. Samples have shown up to 10% but about 1% is nearer average. The vein, which has been mined, is in a slate-like volanic ash tuff and never amounted to much. The shaft has caved in and is now filled. We have considerable amount of this ore in our office.

Nickel: Nickel, 0.5 to 1%, occurs with iron ores (limonite) at Las Mesas, Mayaguez, in the western part of the Island.

Non-Metallic Minerals

Marbles: There are several deposits of marble on the Island some of which make rather beautiful specimens when polished. Near Juana Diaz is a very hard and very fine grained marble of a light buff color. This is found in a solid color and also mottled with a lighter buff. The manganese ores near Juana Diaz occur in this marble and near these manganese deposits marble occurs that shows many beautiful dendritic forms. In one end of the field, the marble is of a beautiful mauve to purple color that polishes into handsome ornaments.

Near Coamo, in the southern part of the Island, is a pinkish marble that is very effective in ornaments but rather soft. A small amount of a blood-red marble has been found near the town of Lajas, in southwestern Porto Rico. There is a slightly gray, coarsely crystalline marble and also a black layer in the same quarry near Rio Piedras, in northeastern Porto Rico. There are a number of inferior marbles in different parts of the Island. Stalactites, stalagmites, and other forms of reprecipitated calcite are found in the numerous caves of the Island. Indeed almost all forms of calcite can be found although there are few good crystals suitable for collections.

Barite: Has been found in many places on the Island. Generally it is a high-grade, almost pure white, crystalline variety. In several places it has been tinted bluish and in another site it is found in different shades of red, colored by iron. I have found several pretty clusters of well-formed barite crystals at Barrio[2] Llanos, Lajas, on the lands of Geraldo Arroyo. A silky-like fibrous strontianite has been found not far from Ponce.

Gypsum: Noted in several localities. It occurs as small veinlets in an andesitic rock. In several places where the rock has altered to a clay, the veinlets, and at times thin crystals, (at Barrio Paris, Lajas, lands of Salvador Perez), can be easily obtained. No massive gypsum has been found so far.

Recently a more important deposit has been discovered near Ponce. The gypsum is a silky-like alabaster and some pretty specimens have already been obtained.

Clay: There are various varieties of kaolin although commercially the Island is not rich in this material. The clays, without exception, are alteration products of volanic ashes rather than of granitic rocks, as is often the case. We have one case of ash alteration which has been recognized by the United States Bureau of Mines as the mineral sericite. Actually it is a white material resembling chalk or white clay. However, it has none of the plasticity of clay. We have, however,

2 Porto Rico is divided into municipalities, one for each town of the Island. These in turn are divided into barrios which correspond very closely to wards, boroughs, and townships in the United States.

found a use for it in ceramic work. It has a very high heat resistivity.

We have here, also, on the Island, a deposit of bentonite although it lacks the high water-absorptive power that many varieties have. It is also highly fire-resistant and eventually will find some use along these lines.

Sand: We have widely scattered beds of pure white sand in the north end of the Island. These are not beach sands, either ancient or modern. The theory is that they are residual sands formed by the large-scale solution of a siliceous limestone. The amount of the sand makes the theory somewhat incredible, but the form of the sand is such that no other theory is tenable.

Quartz: This mineral is found in nearly all of the more common varieties like agate, jasper, flint, chalcedony, ironstone and milky quartz. Some rock crystal has been found that was of good quality but the crystals are comparatively small and the amount available is apparently small. A small amount of low-grade amethyst has been found but the so-called semi-precious varieties of quartz are conspicuous by their absence.

In a general way, very fine forms of agate are lacking. The agates are variegated red-yellow generally with little irregularity in the banding. A patient collector might find something worth while in several areas. Possibly Lares, or Barrio Llanos, Lajas (on the lands of Geraldo Arroyo) are the best bets.

I have seen but two amethysts which came from about two miles southeast of the town of Aguada, in the northwestern part of the Island. They were in geodes and poorly colored, and occurring with a chalcedony vein which can be traced for over a mile on the surface. These specimens were shown me by Mr. Noble the former Secretary of the Commission of Mineral Resources, recently deceased. I do not know where the specimens are now.

Chalcedony is plentiful but not of too good material. Best localities are Barrio Piedras Blancas in Aguada.

Flint has been found at Barrio Minillas, San German, on Valentino Lugo's farm. It is all float material.

Jasper occurs at Barrio Llanas, Lajas, on the lands of L. Cabossa; also at Juana Diaz, in the southern part of the Island with manganese ores; also near Barrio Bartolo, Lares, in the northwestern part of the Island, associated with manganese ores.

Amber: In the Barrio Mariana of Humacao (eastern part of the Island) it is found in several fields on some of the farms. The region is about 5 miles due west of Humacao. The amber occurs in small pieces, rarely as large as a walnut, and many specimens show an alteration or oxidation to a yellowish opaque material but their centers are always clear. I have never seen any inclusions in the specimens examined. The amount is considerable and at one time the local church used it as an incense—may do so yet. It burns with a very pleasant odor .

Although the map shows amber as occurring near Moca in the northwestern part of the Island, I know nothing of the occurrence.

Sulphur: Has been discovered at several places on the Island but in very narrow stringers of a ½ inch or less. One occurrence was in a sewer construction at Aguada, in the northwestern part of the Island, and another at San Lorenzo in the eastern part of the Island.

Graphite: This mineral occurs several miles from the town of Aibonito to the south. Here there are several very narrow stringers in crevices or cracks in an andesitic tuff—a mixture of iron ore (hematite) and graphite. The whole resembles somewhat a soft specular iron but solution of the iron shows a graphitic material. This material is of no importance commercially.

Garnets: Have been found in some sections, a few of good color but little better than sand in size and in restricted amounts. In connection with the magnetite ores near Ponce, many large crystals of opaque, red garnets, often better than an inch in diameter, have been found. The crystals are often well formed.

No other semi-precious stones like tourmaline, topaz, etc., have been found although the possibility of their occur-

rence is by no means denied.

Rock-forming Minerals

The rocks of the Island consist chiefly of tuffs and andestic flows. At times they are very much mixed. There are large areas of granitoid rocks, notably in the East, few of which are true granites. Much of the southwestern end of the Island is made up of serpentine. The remainder of the Island is made up of Cretaceous and recent limestones.

The granitoid rocks, of course, contain feldspar but as these are mostly fine-grained, feldspar as a mineral separable from its associates is not found.

The same may be said of the hornblendes and pyroxenes. However, in case of the latter series, there are a number of locations where porphyries occur which show well marked dark green augite crystals which are easily separated from their matrix. The writer has obtained augite crystals up to ½ inch in length and quite perfect. The best specimens I have seen are from the Barrio Bartolo of Lares, at about Kilometers 56 to 60 on the Lares-Adjuntas road in the western part of the Island. Good augite porphyry also occurs at Yauco, in the southwestern part of the Island.

In the same general locality where amber occurs—5 miles due west of Humacao—mica (muscovite) occurs in altered granite. The plates are small and very clear but books are scarce. No chance of a commercial exploitation.

Epidote is quite common in parts of the Island but as a rule is well mixed with other minerals. No crystals of it have been noted.

Serpentine occurs in all the shades from a light yellow to black with dark green and black the prevailing colors. Some of it is so black that it has been brought in as anthracite coal.

Lignite: Lignite is found in a line between Corozal and Moca at various points. The best and thickest seam is in a road cut on the Lares-Utuado road at Km. 28 where it is about 6 inches thick and fairly pure. Most of it is full of sulphur and pyrite.

There are also several beds of a low grade carbonaceous shale.

Fossils: Our limestones are generally very fine for collecting fossils. There is a fair assortment of species but the beauty of some of them is what makes them important to my eyes. They find some very beautiful ones at the cement plant quarry a few miles out of San Juan, in the northeastern part of the Island; some very fine ones were recently found. The replacement has been in pure crystalline calcite slightly tinted by iron. They are perfect specimens.

About one mile south of the town of Lajas. in the southwestern part of the Island, is a basin which is one mass of fossils. We have in our office a specimen of about 200 pounds in weight which is a mass of fossilized shells. It looks as if these mollusks had been concentrated in one place by some means, perhaps by gradual drying of the body of water, and then were destroyed by some cataclysm.

Map of Porto Rico

In the accompanying map, some of the mineral names are given in Spanish. These with their English equivalents are as follows:

Cinabrio—Cinnabar
Grafito—Graphite
Piyite (error)—Pyrite
Caolin—Kaolin
The scale is in kilometers.
A kilometer equals 3,280.8 feet.

Newark Museum Exhibit

The Newark Museum, of Newark, N. J., has a new exhibit of minerals on display. The Museum has a policy of changing exhibits so that the same material may not always be on display. The present exhibit includes a large number of rare minerals. We do hope that those of our readers who reside in the Newark area will want to see the exhibit while it is still on display.

Visit a Dealer Near You

Many pleasant hours may be passed browsing through a dealer's stock and examining the minerals which are on display. Then, too, a dealer is a storehouse of information on minerals, mineral localities, and mineral collectors. Look over the advertising pages of this magazine for names and addresses of dealers nearest you and visit them at your first opportunity.

SCOTT ROSE QUARTZ MINE

By MRS. EDNA M. SCOTT

Custer, S. D.

One of America's famous mineral localities is the Scott Rose Quartz Mine near Custer, S. D. Here occurs rose quartz in so lovely a pink color and fine quality that tons of it have been distributed all over the world. Mineral collectors prize the mineral very highly and are eager to obtain a specimen from the Scott Mine on account of its beautiful color.

There are many grades of rose quartz present in the mine, widely varied as to color and texture and used for a number of purposes as cabinet specimens, rock walls, rock gardens, fire places, lily pools, bird baths, souvenirs, and jewelry. Boulders of rose quartz, weighing from 700 to 2200 pounds each, are shipped in carload lots to Eastern markets for use as tombstones.

For more than 25 years, we have been shipping about 1,000 pounds of our best grade (gem) material (which is the color of a deep ripe watermelon) to Germany. (The war has forced our cutters, Leycer Brothers of Idar, Germany, to suspend operations for the time being). The quartz was used for cutting into jewelry such as bead necklaces, ring sets, lavaliers, and cabochons, also for bowls, book ends, ash trays, and paper weights. Many of these articles were shipped to us for resale in Custer. One of our facet cut rose quartz necklaces was presented by the author to Mrs. Calvin Coolidge, at the dedication of the Community Hall in Custer which had been built by the Ladies Civic Club. Mrs. Coolidge dedicated the building on August 11, 1927, the summer she spent her vacation in the Black Hills.

Mrs. Edna M. Scott
Owner of the Scott Rose Quartz Mine

HISTORY

The Scott Rose Quartz Mine was discovered by the late Samuel Scott on August. 15, 1902, when out gathering wild raspberries with the family. It has been in operation for the past 36 years.

The author owns the mine and with the help of her son, Frank, has operated it for many years. The author has lived in the Black Hills for 64 years, coming here as one of the early pioneers—June 15, 1877.

LOCATION

The mine is located in a canyon, 9 flows southeast into the Cheyenne River. Creek, a branch of French Creek which flows southeast into the Cheyenne River. Custer is in north central Custer County. The mine is practically in the heart of the Black Hills, the very mountainous area of southwestern South Dakota.

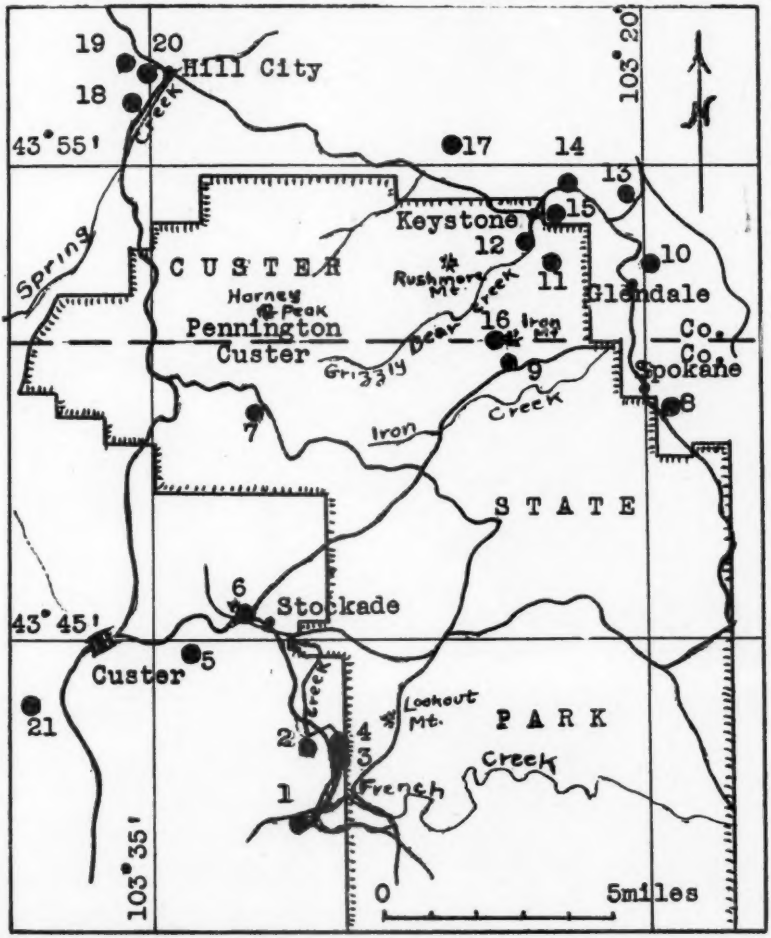
To reach the mine take Highway 16 out of Custer traveling 3 miles east. Here is located Stockade Lake, Gordan Stockade, and the Anna D. Tallent Monument, a monument to the first white woman in the Black Hills. There you take the right hand turn onto the County Road. The mine is about 6 miles from here and there

are Rose Quartz Mine signs all along the way.

Quartz Creek is a very small stream fed by springs. It is a few hundred feet west of the mine. It flows along the foot of the north side of the mountain on which the mine is located.

LAYOUT

The rose quartz vein is about 1200 feet long by 50 feet wide and 75 feet high. Three openings have been made on it of which the largest is about 50 feet wide, 75 feet high and has been worked into the ledge about 20 feet. The other openings are perhaps 200 feet distant from the main entrance and are about 20 feet wide and around 40 feet in height. The entire mine is located on the face of a large



Map showing locations of some mines in the Black Hills of South Dakota
1=Scott Rose Quartz Mine.
(Topography is from Map of Custer State Park and Vicinity which appeared as an insert in The Geology, Mineralogy and Scenic Features of Custer State Park, South Dakota. By Cleophas C. O'Harra and Joseph P. Connolly. S. D. School of Mines Bull. No. 14, Jan. 1926).

Scott Rose Quartz Mine (main opening)
Insert—The Log Cabin at the mine (home of Mr. and Mrs. Frank Scott).

granite mountain. The mine is worked chiefly for rose quartz although scrap mica, feldspar and beryl also occur which are saved and sold for commercial purposes.

GEOLOGY

The rose quartz occurs in large irregular masses in pegmatite and it is believed that it represents a late crystallization during the consolidation of the magmatic solution at temperatures somewhat below the temperatures at which the white quartz crystallizes.[1]

MINERALOGY

Rose quartz is the chief mineral of the mine. At times the entire face of the working is one mass of beautiful quartz ranging in color from light pink to deep rose. Lovely translucent specimens of excellent color, quality, and remarkably free of flaws are obtained—these are the choice gem material which command the highest prices. There is a trace of gold in the rose quartz but no effort is made to recover it.

Arsenopyrite, beryl (about 1912 a large green crystal, 20 ft. long and 3 ft. in diameter, was taken out of the mine), microcline (massive), muscovite (flakes and plates), milky quartz (massive), and black tourmaline crystals are some of the more common minerals present in the mine. The black tourmaline crystals are very prominent and hundreds of lovely specimens, ranging in size from that of a lead pencil up to 4 or 5 inches in diameter, have been taken out of the mine. Many of these tourmalines are coated with fine particles of mica which make them very attractive for cabinet specimens.

In a very popular book on quartz, the statement is made that rose quartz from a mine near Custer fades. Many rose quartz specimens do fade, that from the feldspar mines further south from the Scott Mine fade quite badly, but the material from the Scott Mine does not. We have had specimens on display for almost 40 years and they are just as bright in color now as when first extracted. Our mine contains iron which seems to make the quartz hold its color.

1 *The Geology, Mineralogy and Scenic Features of Custer State Park, South Dakota.* By Cleophas C. O'Harra and Joseph P. Connolly, S. D. Sch. of Mines, Bull. 14, Jan. 1926, p. 64

Editor's Note: Mrs. Edna M. Scott, the author of this interesting article, is and has been a valued member of the Rocks and Minerals Association for many years. As a matter of fact she became a subscriber to *Rocks and Minerals* August 9, 1926, about one month before the first issue made its appearance.

TECHNICAL AND SCIENTIFIC AIDS SOUGHT BY FEDERAL GOVERNMENT

An examination has just been announced by the Civil Service Commission to recruit technical and scientific aids for various Government agencies. Men and women are needed to do research and testing in radio, explosives, chemistry, physics, metallurgy, and fuels. The jobs pay from $1,440 to $2,000 a year.

Among the Government agencies that are expected to utilize the employment lists set up as a result of this examination are: Bureau of Agricultural Chemistry and Engineering, Department of Agriculture; Bureau of Mines, the Department of the Interior; and the Bureau of Standards, Department of Commerce. The War and Navy Departments also have vacancies—the War Department in its Quartermaster Corps, and the Navy Department in its laboratories.

No written test will be given to applicants. They will be rated on their education and experience as shown in their applications, subject to corroboration. Applicants must show 14 units of high-school study unless additional experience is substituted for it. In addition, they must have had appropriate technical and scientific experience of high quality. Approved defense training courses may be substituted for part, or—where appropriate—all, of the experience, and applicants having appropriate college study may utilize it for filling a major part of the experience requirement.

Applications will be rated as soon as possible after they are received at the Commission's Washington office until June 30, 1942. However, since many of these positions are connected with the National Defense Program, persons who are qualified for and interested in these positions are urged to apply at once. Full information, and application forms, may be obtained from the Civil Service Commission's representative at any first- or second-class post office, from the U. S. Civil Service Commission in Washington, D. C. or from any one of the Commission's district offices.

MICRO MINERAL MOUNTS MINERAL TRIMMER

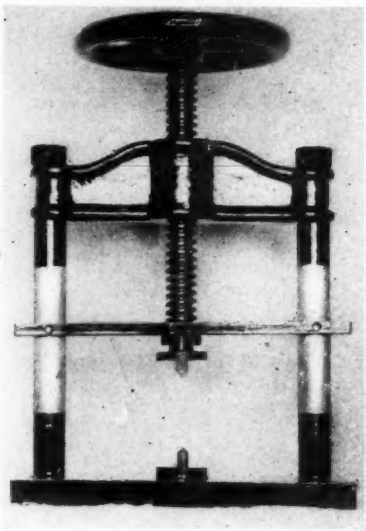
By JAY T. FOX
Fox Museum of Natural History
Seaford, L. I., N. Y.

Only an ardent Micro Mineralogist knows the disappointment and discouraging outcome of a *well intentioned* hammer blow. Too often he has seen his colorful crystal formation disintegrated by a blow being far too strenuous.

A similiar disastrous result on a beautiful specimen of Calamine prompted me to design and have built a suitable mineral trimmer just for this delicate micro mineral work.

I was well aware of the fact that a large unit was on the market. but its bulk and weight (185 lbs) did not make it desirable nor practical where the majority of specimens to be trimmed were for use under a microscope.

Mr. George Tillman, a tool and die maker was consulted. Giving him a general idea of my requirements, I requested that he go ahead and construct a suitable trimmer for this fascinating field of Micro Mineralogy.



Trimmer for Micro Mineral Mounts
(Photo credited to Lush)

That its design was no simple matter, was soon learned. Compactness, minimum weight, size of screw thread for the enormous pressures, to say nothing of the proper bevel and correct hardening of the cutting blades, were but a few of the many difficulties that we encountered. However, after many trials and tribulations, and incidently, after junking the first completed unit, the photograph reproduced herewith shows the end result; and a very satisfactory result it is, I can certainly vouch for.

This piece of equipment trims and cleaves minerals of all hardnesses, from the softest Gypsum to the minerals in the Quartz group i.e. Gold xls embedded in massive quartz. Another admirable feature is, the minerals separate just where the cutting blades are placed without the troublesome feature of pulverization.

A mineral trimmer is an immensly valuable accessory in the preparation of Micro Mineral Mounts. It widens the field of enjoyment, for invariably minute crystal formations of great beauty are concealed in a hidden pocket in the mineral mass. When these newly exposed surfaces are brought to light by proper trimming, fascinating miniature grottos of scintillating colors are revealed.

I might mention about the very first specimen that we split. It was, externally, a mediocre specimen of Azurite from Bisbee, Arizona. As luck would have it, it parted thru the center, revealing a cavity filled with the most gorgeous monoclinic xls of Malachite that I have ever seen. That I will never part with this specimen is a foregone conclusion, and I delight in showing it under the microscope to my many visitors.

On delicate inextricably mingled crystals, such as Natrolite, Malachite, Calamine, Vanadinite and Wulfenite, etc., one hesitates using the hammer-chisel method for fear of completely ruining

the entire specimen. But, all are readily cleaved or trimmed with absolute certainty with this micro trimmer.

Removing a protruding corner from a precious cabinet-sized specimen with hammer and chisel has always been a gamble. Will it break at the right place? The best of specimens do seem to have a tendency to break where least expected. With this trimmer, I no longer pause and consider the chances on a cleavage of this sort.

For the benefit of my fellow Micro Mineral enthusiasts, I list below a few of the structural details. If I can be of any service to any of you who plan to duplicate this outfit, do not hesitate to write me.

Base—4" wide x 10" long x ¾" thick Cold Rolled Steel

Uprights—1" diameter 10" long Cold Rolled Steel

Top Bar—10" long Cast Iron with thickness of 2¼" x 2¼" at screw thread

Screw—1" square cut thread 10" long

Wheel—7" Cast Iron from valve

Blades—Both top and bottom blades are free revolving thru 360 degrees, 1½" cutting edge, ⅝" high with 45 degree bevel on each. Water hardened tool steel

Guide Bar—1½" wide x 10" long x ⅜" thick Cold Rolled Steel, free running on uprights and screw to prevent bending screw at enormous pressures

Overall—10" long 4" wide 12" high with screw down.

Weight—30 lbs.

Will take a specimen 4" x 7" maximum

Reference: See ROCKS AND MINERALS July, 1939—"A homemade mineral trimmer" By Charles R. Toothaker.

MANGANESE DEPOSITS NEAR DUNSEITH, NORTH DAKOTA

As a part of the investigations of domestic deposits of strategic minerals by the Geological Survey, United States Department of the Interior, T. A. Hendricks, a geologist of the Survey, examined several manganese deposits near Dunseith, North Dakota. The principal deposits are at Mineral Spring, in the NE¼ sec. 22, T. 162 N., R. 73 W., about 3 miles northeast of Dunseith on the property of William Gottbreht. These deposits were mapped in detail, and samples were taken for analysis.

The material is a spring deposit which consists of calcareous tufa, pyrolusite (manganese dioxide), and some fine-grained organic matter. It lies at the surface and could be mined by surface methods. Two deposits, one at Mineral Spring and a smaller one about 200 feet west of the spring, cover a total area of about 41,000 square feet. The topographic setting and data from three drill holes supplied by one of the lessees of the property, H. O. Foss, of Minot, indicate that the deposits have an average depth of 10 feet and a total volume of 410,000 cubic feet. Because of the light weight of the material about 25 cubic feet constitutes a ton. Therefore, the two deposits probably contain about 16,400 tons of ore.

A third deposit, similar to that at Mineral Spring, is in the NE¼NW¼ sec. 30, T. 162 N., R. 72 W. It is an elliptical mound about 10 feet high, 125 feet long, and 100 feet wide, whose volume is about 100,000 cubic feet. It is believed to contain about 4,000 tons of manganiferous tufa.

The topographic setting of three additional deposits in a zone 4 to 6 miles east of Dunseith is such that no estimate of their thickness can be made without prospecting.

Dunseith is in the western part of Rolette County in the northern part of the state.

SAMUEL G. GORDON, Mineralogist

Philadelphia Record gives much prominence to Mr. Gordon as one of Philadelphia's eminent scientists

One of Philadelphia's leading newspapers, the *Philadelphia Record,* is printing a series of articles on Philadelphians who have ventured forth to the far corners of the world risking life and limb in the interest of science and their hobbies. The third article, in the Wednesday, August 13th, issue, featured Samuel G. Gordon, a very good friend of *Rocks and Minerals* and a member of the Rocks and Minerals Association.

Mr. Gordon is Curator of Mineralogy at the Academy of Natural Sciences, Philadelphia. Though he has travelled extensively, visiting countries from Greenland to South Africa and in between, it is practically impossible to get a word out of him covering his trips. How the reporter for the *Philadelphia Record* managed to obtain some information is a mystery to us.

We learn from the article that Mr. Gordon has been in many diamond mines but has yet to find his first diamond. At one important mine in South Africa, he spent two full weeks digging in an area about a block square (the superintendent had informed him he could keep all the diamonds found in the area). He found none. This might have been most discouraging but when later the superintendent of the famous Kimberly diamond mine, also in South Africa, stated that he had never found a diamond either, although he had been superintendent for 17 years. Mr. Gordon felt much better.

On his expedition to Greenland, Mr. Gordon ran into a deep mystery in which his 30 boxes of canned food played a leading role. As he moved through the desolate Cape Farewell section, he would toss away empty tins only to notice that they soon disappeared only to appear later with their labels missing. Fascinated by the Mystery of Greenland's Missing Soup Can Labels, Mr. Gordon took time off from his mineralogical explorations to solve it. He discovered that the Greenlanders have a passion for decorating their homes with labels from cans, preferably Campbell Soup cans. Entire walls in several homes were covered with labels and Mr. Gordon likes to think he helped to paper a few Greenland homes in this fashion.

Mr. Gordon is one of the world's leading mineralogists and crystallographers. He is the author of many papers on mineralogy and is the discoverer of a number of new minerals which he has named for fellow mineralogists such as Keeleyite, Vauxite, Paravauxite, Metavauxite, Penroseite, all found in Bolivia; Trudellite, Cadwaladerite, found in Chile; and Ashcroftine, found in Greenland. Cadwaladerite is named for the President of the Academy.

From the mineral collector's standpoint, Mr. Gordon's greatest work is his *Mineralogy of Pennsylvania.* This publication of 255 pages is one of the finest reports of its kind ever published. Its complete contents are as follows:

Introduction ..... pp. 5-10
Origin and occurrence of minerals ..... pp. 11-22
General geology of Pennsylvania ..... pp. 23-33
Descriptive mineralogy of Pennsylvania ..... pp. 34-149
Mineral localities of Pennsylvania ..... pp. 150-239
Bibliography ..... pp. 240-255

This bulletin costs about $6 and copies may be obtained from the Academy of Natural Sciences, Philadelphia, Penn.

About That Trip of Yours

If you are planning to visit localities some distance from home, before the snow flies, jot down the names and address of some dealers along your route and pay them a visit. Localities often prove very disappointing but a dealer's stock never is. Look over the advertising pages of this magazine for names and addresses of dealers.

LITTLE KNOWN MINERALS OF KANSAS

By A. C. CARPENTER

Ottawa, Kansas

Perhaps the most illusive mineral of Kansas is the very interesting little octahedron of limonite pseudomorph after either magnetite or pyrite. I thought of being able to claim to be the first one to rediscover the locality but I guess that Ben Bagrowski of Lawrencce, Kans., has beaten me to it by a few months.

Several years ago I received two or three of these octahedrons from Mr. More of the More Sand Company of Junction City that were marked simply "from Kansas." Later I found that a Mr. Barnhart of Wichita, Kans., had a few of them from "Kansas." I also found that Kansas University had a few marked the same way, "from Kansas." No one seemed to have even the county.

Last fall while in Colorado Springs, Colo., I looked over the fine crystal collection of Mr. Willard Wulff and saw that he had a few of these crystals marked "from McPherson County, Kansas." This was the first time I had been able to get them corralled even in a county.

On my way home from Colorado I stopped to see Prof. E. D. Deere, at Linsborg in McPherson County, but learned that he knew nothing about the crystals. I then stopped in the little city of McPherson and hunted up Prof. Harnly but as he, too, knew nothing about them I decided that the crystals were probably not found in McPherson County. A little later I was talking to Prof. D. C. Schaffner, of Emporia, Kans., and learned that he also had been hunting these illusive little crystals and thought that they were found near Hope in Dickinson County. Next I ran across a report in the Kansas Academy of Science bulletin, Volume 9 for 1883, page 25, where these crystals were mentioned as having been found near Midway, Dickinson County. I could not find Midway in Dickinson County, even on old maps, so deciding that possibly Hope or some other town near there had changed its name I wrote to the Register of Deeds and also to an abtractor at Abilene for information. Both of these people replied that they could find no record of there having been a Midway in Dickinson County. Then I noticed that Ward's Natural Science Est., of Rochester, N. Y., listed these same octahedrons but simply "from Kansas," so I wrote them and they replied that these crystals had been in stock for at least 50 years and were labelled "Marion County, Kansas," Having exhausted every clue thought of, I decided that the only way to find them was to try to chase them down in the field.

During New Year's week, Messrs. Long and Luthi, teachers in our high school, and I started out to find them. We first went to the little town of Hope where wet met a barber, Mr. Rubin, and also a filling station man, Bob Morrison, who collected Indian relics. They recognized the crystals immediately which we had with us. They told us they were sure the crystals had never been found near Hope but were supposed to come from near Lincolnville in Marion County, where they understood the crystals could be shoveled up by the scoop-shovelful at that place. We back tracked down to Lincolnville and upon showing a few of the crystals at various filling stations found that most everyone had seen them. They all wanted to know that they were, why we wanted more and what they were good for. After answering all these questions, they finally told us that an old man, a Mr. Fritch, who lived nearby, could probably tell us where the crystals could be found.

Mr. Fritch told us to go one mile north and one and one-quarter miles east to the John Reimer farmhouse. Then if we would look on the top of the hill

in the wheat field south of the house we would probably find some.

Mr. Reimer was not at home but Mrs Reimer told us where she thought they could be found. The wheat field was quite muddy so that the dark crystals, if present, would be difficult to see. After searching around for some time we finally ran across a few crystals in the white alkali spots near the top of the hill. Each one of us got six or eight crystals at this place and then by looking at other white spots about the same level south and east of this we found a few more. (If a person could get out there when the ground was perfectly dry he might be able to find them more plentiful but I am afraid never in such quantity that he could use a scoop-shovel to pick them up).

Another report is that the crystals can be found near Roxbury, in McPherson County, but we have not been able to investigate this as yet.

Ward's, as well as a number of others, have these crystals labelled "Limonite Pseudomorphs after Magnetite;" others think that the original mineral was pyrite. I believe it is a fact that magnetite requires heat or some metamorphic action to form. We could find no evidence of metamorphism near Lincolnville so believe the limonites must have formed from the rare octahedrons of pyrite.

If any of you are able to locate these crystals in larger quantity or at any other locality in Kansas, I wish you would let me know as I am anxious to get a larger supply of them. I would also like to find some that have not yet been completely altered so as to settle the matter of their origin.

On this same trip we discovered what seems to be a brand new locality for celestite. This is at the new Kanopolis dam site in the southeast corner of Ellsworth County. At that time they were digging the diversion tunnel. The entire property was fenced in while big signs, "no trespassing," were prominently displayed. We went to the office and easily obtained permission to drive in and look around. Near the water's edge of the Smoky Hill River where there is probably the highest natural bank along the south side of the stream and about opposite the center of the new tunnel, we found a beautiful solid blue and a fibrous pink celestite in the cavities of a thin layer of limestone. (I understand from Dr. Landes of Kansas University that this is the first time celestite has been reported from the Cretaceous of Kansas. That already reported from Brown County is in the Permian and so is that recently found in Chase County and Wabaunsee County).

I am sure that all of you are acquainted with the beautiful selenite crystals that are found in Central Kansas. I have shipped these to a good many collectors in different states and almost everyone of them said that they were the most beautiful and perfectly formed of any selenite crystals that they have ever seen.

I am wondering how many of you have noticed the different proportions of length to width in the selenite crystals. One locality will produce nearly all of some certain proportion while another locality will show another ratio. Those found in a clay bank along the east side of Smoky Hill River, about 4 miles southeast of Kanopolis where the river runs straight south, are nearly always about three times as long as they are wide. Some of the small ones will run five times. In the clay bank along the east side of the road ¼ mile south of the west edge of Brookville, we have found almost all of them twice as long as wide, and in the road cut ½ mile north of Langley they are usually about the same length as width. Most of these come from Ellsworth County, Kansas, and it is interesting to note that Ellsworth, in Ohio, is another noted locality for selenite crystals but every crystal that I have ever seen from Ohio is only about one-half as long as it is wide. Just why each locality should produce one predominate proportion and almost no other proportions is a good problem for some of our students to try to solve. There are several things that might effect the growth such as tem-

perature, concentration of solution, foreign matter, speed of growth, hardness of surrounding matter, etc.

I know that you are all acquainted with the very plentiful cone-in-cone that is found in so many places in Central Kansas. Sometimes they occur around gypsum concretions but more often in a layer from a few inches to a foot thick. In these as well as most other cone-in-cone I have seen the cones point both up and down. Along a new road cut 2½ miles southeast of Independence, Montgomery Co., Kansas, which is about one mile straight south of the Portland cement plant in the Drum limestone, there has been found a thin layer of cone-in-cone where the cones all point upward. The angle at the top of these cones is about 75° while most all other cone-in-cone have a much steeper angle.

This is another interesting question of *why?* First we will have to settle the question as to how the cone-in-cones were formed. There was undoubtedly a movement at time of hardening or crystallization. The theory that sounds best to me is that this layer was originally aragonite and as it changed to calcite it expanded causing the pressure which pushed the cones up or up and down.

Aragonite has a gravity of 2.9 while calcite is 2.7 so upon changing from aragonite to calcite, in an enclosed space, there would certainly be a pressure formed which might push up these cones.

In the transactions for the Kansas Academy of Science, Volume 41, Professor Schaffner reported some possible Dinosaur Gizzard Stones from the Dakota formation at Morganville, Clay County, Kansas. I have visited this locality and have found a great many very nicely polished stones that seem to be gizzard stones. I have noticed that the arrow head collectors around Herington and Lincolnville have picked up a number of these same polished stones, and recently, one mile north of Lincolnville, I have found a number of them. This is in the Permian formation and we were not supposed to have had Dinosaurs that far back. If these are gizzard stones they evidently have been let down by the weathering away of the Dakota, or possibly there was some Jurassic or Triassic covering that part of Kansas at one time.

This locality is about 70 miles east of any Dakota at present, but I believe we have abundant evidence of the Florence Flint formation eroding back further than that. Most of these have been broken, but you would naturally expect this if they weathered out of the Dakota or some older formation a good many millions of years ago and have been exposed to freezing and thawing ever since. Of course, they might have been transported by streams, but I believe they would then have lost more of their polish.

There is some evidence of sand polish on some of these, but the rounded edges certainly look as if they had been formed in some big animal's gizzard, and the polish is entirely too high for any Tertiary pebbles.

Bibliographical Notes

Petroleum and Natural-Gas Fields in Wyoming: By Ralph H. Espach and H. Dale Nichols.

Wyoming contains many petroleum and natural-gas fields but not all of them are of commercial importance. This interesting report of 185 pages and 72 figures and maps (55 are in a separate case) should be of special value to those desiring information on these important mineral products of the state.

Issued by the U. S. Bureau of Mines as Bulletin 418. For sale by the Superintendent of Documents, Washington, D. C. Price $2.25.

NEW ENGLAND NOTES

Conducted by RUDOLF C. B. BARTSCH
36 Harrison St., Brookline, Mass.

East Alstead, N. H.: A recent visit to the new workings of the Golding Keene Co., formerly at Alstead, was very disappointing from the collector's angle. No minerals of interest were found except at the small test opening to the right of the main quarry. Here we found some excellent specimens of molybdenite in quartz and feldspar. The molybdenite seems to be fairly common and masses up to 2 inches across and about ½ inch thick were observed. Some pyrite also occurs here and traces of ferrimolybdite. The new road to the top of the mountain is in fine shape and most any car can make it though the grade in some sections is quite steep, and of course a watch must be kept for the descending trucks with their loads. About 40 men are now employed at this open pit which is over 300 feet long, 100 feet wide, and 80 feet deep at the present time. This will give some idea of the large amount of work done since the opening of this present working quarry. This pegmatite is the most barren of all visited during my collecting endeavors.

Portland, Conn.: On Friday, August 12th, the Schoonmaker mine and the Strickland and Andrews quarries were visited by J. Gerald Gilchrest and H. Giles Tasman, both of Nyack, N. Y., Peter Zodac, of Peekskill, N. Y.. and L. W. Little, of East Hampton, Conn. At the Schoonmaker the party found a large amount of good lepidolite; the Strickland yielded some nice muscovite crystals, one fine crystal of purple apatite on matrix and some pale blue beryl . The beryl was found as a huge mass, at least 2 x 2 x 2 feet in size, buried at the foot of one dump. (One corner of the beryl was projecting out). For no reason at all, the collectors decided to excavate it to see what it looked like. With the aid of a railroad rail, a fence post, and a hammer, the collectors, after 15 minutes of hard work, dug the specimen out. Most of the beryl still reposes at the foot of the dump awaiting the arrival of some other collector.

The Andrews quarry furnished the best specimens for the day. While Mr. Little spent the entire time at his disposal on the main dump collecting fine specimens of dendrites, autunite, and torbernite, the other three collectors centered their attention on the quarry itself. Here they found a large number of doubly terminated grayish green beryl crystals; the crystals were all about the same size, one inch long and one inch in diameter. Unfortunately the beryls were all embedded in large masses of pegmatite (one mass about 5 x 5 x 5 feet in size had at least one dozen crystals showing on one face) so that it required laborious work to obtain specimens. It is too bad that Mr. Wilkes, the Superintendent, wasn't around to observe the collectors at work. It would have warmed his heart to see those sledge hammers flying and huge rock masses growing smaller and smaller. He might even have wanted to hire the collectors to work regularly in the quarry. At any rate, he was well repaid for allowing the collectors to enter the quarry; they broke up many tons of rock for him and took away but a few pounds and most of this would have been thrown away on the dump as waste material.

Dr. Gilchrest and Mr. Tasman obtained, also, some nice garnets.

Note: See page 165 of the May, 1941, ROCKS AND MINERALS, for map showing location of the quarries.

Branchville, Conn.: A recent visit to this locality by O. W. Bodelsen, of Mt. Kisco, N. Y., and Peter Zodac, resulted in nothing unusual being found. The abandoned quarry is full of water and is used as a swimming pool. Large masses

(*Continued on page 377*)

TIN AND TUNGSTEN DEPOSITS OF SILVER HILL, SPOKANE COUNTY, WASHINGTON

As part of the program for the investigation of strategic minerals by the Geological Survey, United States Depa:tment of the Interior, a Survey geologist, L. R. Page, examined the tin and tungsten deposits at Silver Hill, 11 miles southeast of Spokane, Washington. Trenching and sampling by the Bureau of Mines furnished valuable information.

The deposits have been known since 1906, and by 1912 about 150 tons of material containing 3 to 6 percent of metallic tin had been mined and stacked on the dump, but no shipments have been made. The area is served by a paved road from Spokane and is crossed by a branch of the Great Northern Railway.

The ore minerals in the mineralized area are cassiterite (tin oxide), scheelite (calcium tungstate), and wolframite (iron-manganese tungstate). The cassiterite occurs in a series of pegmatite dikes cutting ancient metamorphosed sediments of pre-Cambrian age. Various kinds of pegmatite dikes are abundant in the Silver Hill area. Cassiterite, however, is found only in those that contain the minerals sillimanite and andalusite and in the associated quartz-feldspar pegmatites of pre-Mesozoic age, but by no means in all of the pegmatites of these two types.

The tungsten minerals occur in quartz pegmatite dikes and in quartz veins only. The quartz pegmatites are entirely within the sillimanite - andalusite pegmatites, which in turn cut the older metamorphic rocks. Scheelite, with irregular rims of wolframite, occurs in masses as much as 8 inches in diameter in these pegmatites. The quartz veins, which occur as lenses in the schists and as small inclusions in the nearby granite, range in size from a fraction of a foot to more than 10 feet in thickness. Some of these quartz veins contain silver-bearing galena but no tungsten minerals.

Visible ore reserves in the Silver Hill district are small. The largest tin deposit exposes about 500 tons of ore containing about 3 percent of tin. Perhaps 20,000 tons of lower-grade tin-bearing material is present. The Bureau of Mines recently exposed eight quartz veins which contain about 4,400 tons of proved tungsten ore estimated to contain one-half of 1 percent of WO_3 (tungstic oxide). Additional prospecting may prove another 7,400 tons of tungsten ore of similar grade. About 100 tons of tungsten ore of a lower grade might be recovered from the quartz pegmatite dikes.

Field Fables of "Rocky" Moore

This one has tew dew with the diskovry uv the famyous Patch-Pants Mine by Dusty Rhodes an' Lucky Lem Pickens. Dusty and Lucky wuz podners. Originally they wuz sheep- herders an' had allus sheered an' sheered alike. One day they hed bin tew toun fer supplies an' brung hum a kuple quartz uv likker that wuz so strong thet one drink uv it an' yore socks wud fly rite out thru yore shoose. They wuz a-hittin' the bottul as they driv along in their anshunt ol' car an' they got to argyin' bout somethin er uther—they say it wuz over the elkeshun uv President McKinley—an' finly Dusty kalled Lucky (who was drivin') a derned horn-tode er somethin. Lucky flang on his brakes an' scud to a stop jist on top uv a rise in the rode overlookin' the deep an' trecherus Funril Canyen. An' they wint at it. They wuz both tuf, hard-hitten' sons uv the desert an' after bout haff hour uv nockin' each uther down, they wuz ony one tooth left in eithar hed—it bein' in Lucky's. This maid Dusty maddern ever so he finly let one luce thet tore the one out uv Lucky's mouth an' sint him spinnin' over the brink. He landed sittin' down an' scud fer fully haff mile dawn they canyen a-grabbin' at ever thing in site to slow his fall. Whin Dusty got down an' picked him up, he had a pound uv high-grade gold ore in each hand. His descendin' path wuz well marked with a gruve three feet deep in sum places an' it wuz no trubble a-tall to find the outcroppin' where Lucky hed found thet high-grade. It turned out tew be the richest gold-mine in thet part uv the cuntry. It's a matter uv record thet the seet uv Lucky's pants ran $25,000 a ton an' he wore em tew his dyin' day an' wuz never seen sittin' down. An' thet's the histry uv Patch-Pants Mine—so help me An' jist tew save yew frum astinn: No, Dusty an' Lucky never got no store-bot teeth. They finished their lifes a-gummin their vittles.

Yore's Trooly, "Ol' Rocky," awthur.

WHAT'S DOIN' IN MISSOURI?

By CLARK HARRISON

It was past high noon, and the pleasant warmth of a summer sun filtered down out of the clear blue sky as I drove along the broad ribbon of concrete, which runs south from St. Louis, out into the foothills of the Ozark Mountains. My destination was Kimmswick, Missouri, where I was to learn about the National Geologist Club.

These beautiful rolling hills, enshrouded with filmy blue haze, wooded with hardwood forests for the most part, and little farms tucked away in the valleys,—these have been the theme of poets and writers who have caught their charms. As I drove along, the world seemed to be such a peaceful place, and everything seemed to be just and equal—that's one of the inspiring manifestations these hills impart. Driving through these hills one gets a feeling of goodness, eternal as these hills,—these hills of a very, very old range of mountains, nearly eroded away (the highest point in the state is Taum Sauk peak, 1808 feet above sea level).

About 25 miles out of St. Louis, I turned off the main highway for one mile, and entered the little rural village of Kimmswick. The population is 142, but it has stores, postoffice, barber shops, schools, etc. It is a village of trees. The houses are on large lots, with lots of big shade trees. And the streets are well lined with large trees.

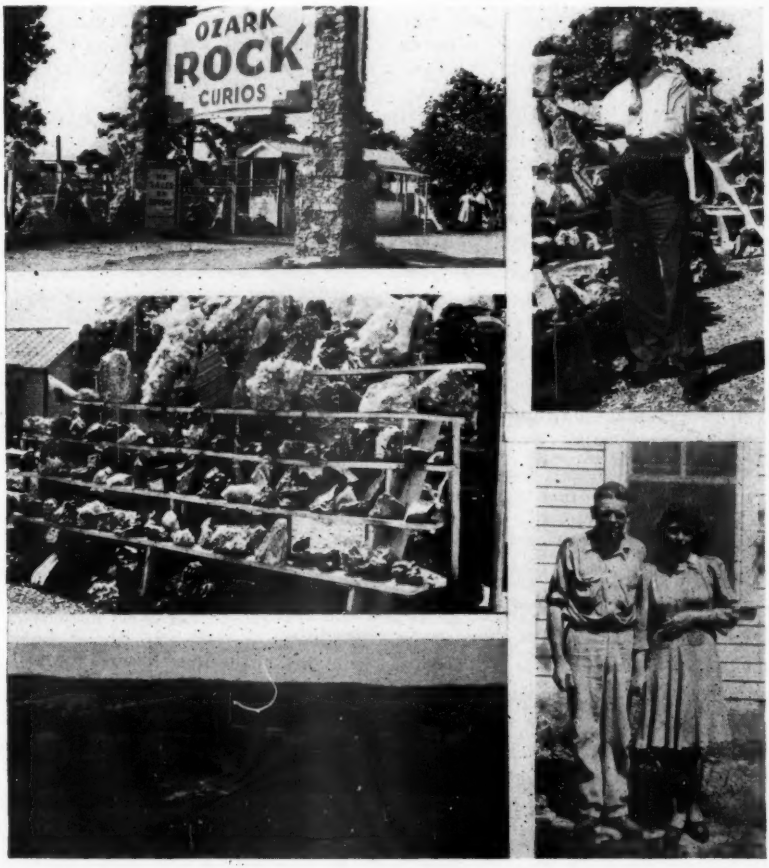
Continuing down the main highway another mile or so, I saw a side road leading up to Mount Olympus, a beautiful wooded hill, on which James H. Stockwell, and his wife, Daisy Patricia, live. Mrs. Stockwell is President of the National Geologist Club of Kimmswick. This club, an affiliated member of the Rocks and Minerals Association, has 38 members. While they do not hold meetings, as yet, they do have a packet system of communication which is interesting. Members contribute material of geological interest which circulates between members in other states. It is a sort of chain system, called packet clubs, in which the members keep in contact with each other.

All of the club members have nice collections of minerals, and one can find these members in many states. I might mention a few: Henry Aarnes, Kansas City, Mo.; Paul McGuire, Fairfax, Okla.; Joseph Alessi, Lombard, Ill., Rose L. Green, Auburn, N. Y.; Mrs. Patricia Armstrong, Nova Scotia, Canada; W. Scott Lewis, Hollywood, Calif.; James Burton, Topeka, Kan.; Helen Bowman, Chairman of the Geology group of the Webster Groves (Mo.) Nature Study Society; and another New York member, Edna May King. Mr. Aarnes has a fine collection of some 350 specimens of minerals, meteorites, etc. One member in Rollins, Montana—Hazel Odle—has built some wonderful miniature dioramas out of native rocks. Boyd Olson, President of the Orofino Mineral Society of Idaho, is a member. One member specializes in weighty specimens, another in fossils, and another (in North Carolina), in Fairy Stones. Anyone may apply for membership in this interesting mineral club, and receive the monthly club packets, as well as exchange minerals. (Address Mrs. Stockwell, Mt. Olympus, Kimmswick, Mo.)

Daisy Patricia Stockwell is a very dynamic little lady, who, with ceaseless efforts, has fought an uphill battle to organize and create a real livewire mineral society and to disseminate mineralogical knowledge. There are no schools nearby to give mineralogical courses; it is too far out for mineral shows; and another disadvantage is rural locale where natives are apt to look upon rocks as "just rocks." But through untiring efforts, Mrs. Stockwell is putting Kimmswick on the mineralogical map. And when I return there to visit next year, I wouldn't be surprized to learn that the local school has a mineralogical course and that the club has regular meetings and field trips. Mrs. Stockwell finds time

to keep in contact with all of her local club members, answer out-of-state packets, and lecture, as well as to conduct contests.

Only a few miles away is the beautiful St. Louis suburb, Webster Groves. This is the home of the unusually interesting Webster Groves Nature Study Society which enjoys meetings, lectures, field trips, and publishes an excellant little mimeographed publication called "Nature Notes." This organization has five departments — Ornithology, Entomology, Botany, Geology, and Astromony. The Geology group recently voted to join the National Geologists Club over at Kimm-



Upper Left—A roadside stand on Highway 66 near St. Clair, Mo.
Center—An attractive roadside stand on a Missouri highway.
Lower Left—The Kimmswick Country of Missouri.
Upper Right—The author inspecting minerals at a Missouri roadside stand.
Lower Right—Jimmie and Daisy Stockwell.

swick. The societies are showing some nice cooperation. I just received the latest issue of "Nature Notes" and think it very interesting. I am informed that they would like to exchange publications with mineral societies and like organizations, which should prove interesting.

Jimmie Stockwell is a stone mason. His father came from Kent, England. Mrs. Stockwell is a local Kimmswick girl. Jimmie is quite a rock hound himself and is just the kind of fellow to have around to help a lady trim and mark specimens, help with packet correspondence, and scout the country for minerals and fossils. (Fossils are found at Glenn Park Quarry). Mrs. Stockwell is conducting a geology contest, via questions and answers, for next month. Next month finds her schedule filled with lectures, one of which will be Webster Groves (Nature Study Society), another for the science class at Herculaneum (Mo.) high school. For her Webster Groves lecture she has chosen the subject of "Minerals of the Bingham Mines of Utah."

Daisy Stockwell began her collection 8 years ago. A newspaper man, resident of Kimmswick but who had come over from Denmark, owned some nice specimens which had been given him by a German professor. The newspaper man, Oscar Peterson, gave some of these specimens to Daisy and this was the beginning of her collection. She has a wonderful collection consisting of a wide variety of quality specimens. There are polished thunder eggs, a polished agate showing lovely miniature quartz crystals beneath a lavender colored surface, a large black tourmaline crystal from Mexico, garnets large and small, sapphires, rainbow iris agates, kunzite, a large cluster of quartz crystals, excellant specimens of bloodstones, labradorite from Canada, a fine fracture agate given by a Major Reiner of Webster Groves, fine fluorite specimens from Mr. Livingston of Illinois, a fine copper nugget polished on one side from Alaska—given her by A. C. Carpenter of Ottawa, Kansas; a large chunk of opal from Australia, molybdenite, jasper, malachite, azurite, vanadinite, bornite, turquoise, prehnite, lepidolite. Also a nice collection of shells of which some that are very rare. One very interesting item in her collection are the Spanish stone digging implements given her by the Wyoming artist, Mr. Wilson of Glendo, Wyoming, who, I believe, owns the largest ranch in that state.

Mineralogical interest is starting to run high in Missouri. Collectors and clubs or societies are to be found everywhere. Wayside mineral stands with really valuable specimens for sale may be found along the highways. At one of these, near St. Clair, is a wonderful assortment of specimens some of which are very large ones. I purchased here a roll of blue barite crystals for my collection, which I liked very much.

Missouri is largely underlaid with limestone. It is a highly mineralized area, producing much zinc (sphalerite), lead (galena), and barium (barite). On my mother's farm near Bourbon, only a few miles west of Kimmswick, I found good specimens of moss opal, dendrites, and drusy chert, as well as many quartz variations, chalcedony, jasper, etc.

Mrs. Stockwell is very fond of swapping minerals with those in other states. She has Missouri minerals, and possibly fossils from the quarry.

Next year when I again visit Missouri, I shall not forget to drive over to Kimmswick. Nor shall I ever forget the hospitality of the congenial people living there. And fellow mineralogists, those of you who are acquainted in Kimmswick, you should not forget the little lady who has contributed so much in the interests of geology and mineralogy.

Club and Society Notes

New Jersey Mineralogical Society

At the first meeting of its 1941-42 season (Tuedsay, September 9th), the Plainfield Mineralogical Society changed its name, officially, to the New Jersey Mineralogical Society. This change in name had long been contemplated by the members as being more in keeping with their aims and aspirtions.

Officers elected for the 1941-42 season are:
Mr. J. D'Agostino, President
Dr. S. S. Cole, Vice-President
Mr. O. I. Lee, Vice-President
Mr. O. B. J. Fraser, Secretary-Treasurer
Mr. G. R. Stillwell, Asst. Secretary-Treasurer
Miss Helen Hageman, Librarian

The program for the first meeting was devoted, also, to "Summer collecting activities of the members" and a debate among members "Which gives me the most pleasure—seeking specimens personally or purchasing them."

37th Annual New England Field Geologists Meeting

THE TIME:—OCTOBER 10, 11, 12, 1941
HEADQUARTERS: — AMHERST and NORTHAMPTON, MASSACHUSETTS
THE LEADERS:—R. BALK, R. H. Jahns, C. Lochman, M. E., Willard, H. A. Meyerhoff, E. W. Olmstead.
TOPICS FOR DISCUSSION:—

1. CORRELATION OF PRE-TRIASSIC ROCKS ON THE EAST SIDE OF THE CONNECTICUT RIVER, NEAR BERNARDSTOWN, MASS. Leader, R. BALK.
2. CLASSIFICATION OF POST-TRIASSIC ROCKS OF CONNECTICUT VALLEY.
   Leaders, R. H. JAHNS, C. LOCHMAN, M. E. WILLARD.
3. (Tentative) GEOMORPHOLOGICAL PROBLEMS OF THE CONNECTICUT VALLEY AND UPLAND EAST OF IT.
   Leaders, H. A. MEYERHOFF and E. W. OLMSTEAD.

Secretary:—Lloyd W. Fisher,
Department of Geology
Bates College,
Lewiston, Maine

Bridgeport Mineral Club

The 6th field trip of the year will be held Sunday, October, 26th at the Bedford pegmatite quarries, Bedford, N. Y. The trip will start from the Central High School, Bridgeport, Conn., at 9:30 a.m. For further particulars contact Mrs. Julia Walker, Sec., 55 Eaton St., Bridgeport.

Unique Mineral Field Excursion

During the month of August, Saturday the 9th to be specific. The Plainfield Mineralogical Society arranged and attended a most unique "field excursion." The story starts with the fact that Dr. A. B. Cummins, Director of Research for the Johns Manville Co., had purchased from Martin Ehrmann, of New York City, several thousand pounds of the remaining unclassified Calvert Collection. After making a few selections of his own, Dr. Cummins offered the entire remaining lot to the members of the Plainfield Society. He had the specimens cleaned and displayed on long benches in his large barn and spacious garden where selections could be made according to the desire of each. The selection offered at least 20 known minerals from many parts of the world, including many unknowns.

At noon time the Hostess, Mrs. Cummins, served a graden lunch fit for a king. All who attended expressed the thought that of all the field trips attended, "this one had beat them all."

New Haven Mineral Club

The 7th field trip of the year will be held Sunday, October 19th, at the siderite mine, Roxbury Station, Conn. The group will meet in front of the Peabody Museum on Whitney Ave., New Haven, Conn., at 9:00 a.m, from which point it will proceed to the locality.

New York Mineralogical Club

The first meeting of the 1941-42 season will be held on Wed., Oct. 15 at 8:00 p.m., at its clubroom in the American Museum of Natural History, New York City. The program will consist of a symposium on summer collecting.

Newark Mineralogical Society

The 202nd meeting of the society will be held at Junior Hall, 468 Orange St., Newark, N. J., on Sun. Oct. 5 at 3:00 p.m. The program will consist of a symposium on summer collecting.

Queens Mineral Society

The first fall meeting of the Queens Mineral Society was held on Thursday evening, September 11th, at the home of Mr. and Mrs. Edward Marcin, 46-30 190th St., Flushing, L. I., N. Y. This was a get-together meeting after the vacation period in which tentative plans were made for the program and field trips for the rest of the season. A large number of members were present and an interesting evening was enjoyed by all.

Collectors' Tales

SOME TRIALS AND TRIBULATIONS OF A COLLECTOR'S WIFE

By MRS. T. ORCHARD LISLE

On March 10th, 1939, my husband and I started off early in the morning for San Diego, Calif., intending to stop off at Pala Chief Mountain, which, while taking us 20 miles out of our way, promised good gem specimens from an old abandoned mine. On reaching the mountain we decided to leave our Hudson parked in the road and walk up the path to the mine. The distance seemed to be about half-mile and an easy climb, even though the sun was broiling us and I had acquired a painfully sun-burnt arm.

So we started but found when we were well on our way that said trail zig-zagged back and forth up the mountain side, each turn promising to be the last, yet going on and on. Mr. Lisle wanted to return and get the car but the path was so narrow with crumbling edges that I was afraid the Hudson would run into trouble, possibly even rolling over—so I begged him not to get it.

On and on we trudged and finally we reached the old mine where Mr. Lisle tried to make me comfortable as I was in no ways interested in collecting. He found an old wooden beam which served as a seat with two others propped behind me for a back rest. He then left me to go even further up the mountain in search for his wretched gem crystals.

The view from where I sat was very wonderful, overlooking rolling hills and mountains and valleys, with all kinds of beautiful wild flowers for extra coloring and a couple of Indians way off in the distance plowing in a field. Did I mention it was an Indian reservation?

From the remains of wooden benches, tables, cooking utensils and shacks, it looked as though the mine had been worked recently. A stack of old newspapers and magazines bore dates up to July, 1938.

Mr. Lisle was so far off that I could no longer hear the tap-tap of his hammer. All was very still, Suddenly two over-grown birds rose from the tall grass at my feet nearly scaring me to death with the loud whirling noise their wings made. Small eagles, which I at first mistook for planes far off, came quite low down over my head while chipmunks would dash hither and yon through the grass and shrub-oak; yet all was so still of human voice that my imagination began to work overtime, visioning an Indian creeping up behind me and tapping me on the head to see if I was carrying anything of value in the way of jewelry or money.

I could stand the silence no longer so in spite of being dead tired, stiff and very hot, I got up and began to wend my way up in search of my husband. He was finally found and then I began to worry him to death by tagging after him and nonchalantly traversing the dangerous spots around the mine. Finally he gave up and we then started our way downward which was easier than going up in spite of the rough walking. Half way down we reached a spot which had a sheer drop of a few feet all through cactus while on the right was a small cliff; suddenly I heard a sound resembling a lot of small stones falling or steam escaping from a pipe. I stopped to look around from whence such a sound

could come from in that uninhabited spot miles from anywhere. Mr. Lisle stopped also to learn why I had stopped and noticing the noise, looked down. "Run! it's a rattlesnake!" he yelled. Run? I was too frighteened to even move. I was paralyzed with fear! In some manner I managed to look down to see Mr. Snake slithering away; evidently he didn't like the looks of me or because I was perfectly quiet he left me alone.

I began to feel very sick but managed somehow to reach the car and we then made all possible speed to San Diego and our hotel. (We were going to San Diego for the weekend). Not until I reached the hotel and drank something a little stronger than water did I get my courage back.

(On these mineral trips I generally sit in the car, reading, while Mr. Lisle collects alone. But on the trip to the Pala Chief Mine he thought I would be interested and so begged me to go along. I bet he will never ask me to go again).

With Our Dealers

An attractive price list entitled *Minerals—For Schools, Colleges and Private Collectors (Price List No. 63)* features some of the many minerals in the large stock of the Mineral Supply House, 913 E. 18th, Spokane, Wash. The minerals are alphabetically listed from A to Z (Actinolite to Zoisite) which are offered in cabinet specimens ranging in price from 10c up to $15.00 each—some are also offered in pound lots. A number of rocks are also featured.

The price list is 6 x 9 inches in size and contains 24 pages. We hope that every reader of *Rocks and Minerals* will send for it—it's free—and order many of the items listed.

It is with much sorrow that we have to announce the recent death of the young son of "Rocky" Moore, of 542 S. Broadway, Los Angeles, Calif. Little "Rocky" was only 5 months, 1 week old at the time of his death.

We are sure that all of our readers unite with us in extending our sincere sympathy to Mr. and Mrs. Moore.

The Gem Shop of Helena, Mont. (Box A797), just finished mailing Circular 60C to its huge mailing list. Did you receive your copy?

The August 25th issue of the *Asheville Citizen Times*, Asheville, N. C., carried a two-column item featuring Bradley Johnson and his large collection of Western North Carolina minerals. Mr. Johnson is proprietor of Johnson's Minerals, 625 Merrimon Ave., Asheville.

Two fine pictures—one of Mr. Johnson in front of a mineral cabinet and the other of his pretty daughter, Miss Joyce, at work on a polishing wheel—illustrate the item.

Mr. Johnson is one of North Carolina's most popular collectors and known personally to hundreds of our members. His attractive young daughter is gaining wide popularity as a cutter and polisher of North Carolina gems and minerals. (A suggestion to collectors: Order some specimens from Mr. Johnson and request that at least one of them has been cut and polished by Miss Joyce).

With this issue, Rocky Moore of 542 S. Broadway, Los Angeles, Calif., inaugurates a Rock Buyer's Club. This is not only a unique feature but it gives members a very good return for their money. Rocky has assured us that every member will receive the same value in specimens as they would on individual cash sales. Turn to page 385 and read what he has to offer you.

NEW ENGLAND NOTES

(*Continued from page 370*)

of margarodite are still available on the small dumps and this is about the only mineral of interest to be seen though careful search might disclose others.

The quarry is easily reached from the railroad station which is about 100 feet north of U. S. Route 7. Cross the tracks (right of the station), turn right and take the left fork and about 100 feet further make a sharp turn to the left, going up a slight hill. About 200 or 300 feet further make another sharp turn to the left (the first road to the left); about 500 or 600 feet in on this road is the quarry (about 100 feet to the left, almost apposite an old house on the right).

Clubs Affiliated With the Rocks and Minerals Association

ARIZONA

Mineralogical Society of Arizona
Geo. G. McKhann, Sec., 909 E. Willetta Street, Phoenix.
Meets at the Arizona Museum in Phoenix on the 1st and 3rd Thursday of each month.

CALIFORNIA

East Bay Mineral Society
Miss Marjory Welch, Sec., 3268 Central Avenue, Alameda.
Meets on the 1st and 3rd Thursdays of each month (except July and August), at 8:00 p.m., in the Lincoln School Auditorium, 11th and Jackson Sts., Oakland.

Northern California Mineral Society
A. L. Rogers, Sec., 137½ Joost Ave., San Francisco.
Meets on the 3rd Wednesday of the month at the Public Library in San Francisco.

Southwest Mineralogists
Mrs. Pearle Arnold, Cor. Sec., 2132 W. 76th St., Los Angeles.
Meets every Friday at 8:00 p.m. at Manchester Playground, 88th and Hoover Sts., Los Angeles.

COLORADO

Canon City Geology Club
F. C. Kessler, Sec., 1020 Macon Ave., Canon City.
Meets on the 1st and 2nd Saturdays of each month at 9:00 a.m. in the High School Building Canon City.

Colorado Springs Mineralogical Society
Lynn M. Hopple, Sec.-Treas., Motor Route 2, Colorado Springs.
Meets usually at the Lennox House, Colorado College Campus, Colorado Springs, on the 2nd Monday, of each month at 7:30 p.m.

CONNECTICUT

Bridgeport Mineral Club
Mrs. Julia Walker, Sec., 55 Eaton Street, Bridgeport.
Meets in the Bridgeport Public Library on the 3rd Monday of the month.

Long Hill Mineral Club
Eugene F. Robinson, Sec., R. F. D. No. 4, Box 237, Bridgeport.
Meets on the 4th Tuesday of each month at 8:00 p.m., in the Hawley Memorial Library, Long Hill.

Mineralogical Club of Hartford
Mrs. L. T. Goodrich, Sec., 51 Jerome Avenue, Bloomfield.
Meets the 2nd Wednesdays of each month, at 8:00 p.m., at 249 High St., Hartford.

New Haven Mineral Club
Mrs. Lillian M. Otersen, Sec., 16 Grove Place, West Haven.
Meets on the 2nd Monday of the month at the Y. W. C. A. on Howe St., New Haven.

IDAHO—OREGON

Snake River Gem Club
Margaret L. Hearn, Sec., Payette, Idaho.
Meets alternately in Payette and Ontario, Oregon, (two small cities on the Snake River) on the 3rd Tuesday of every month.

ILLINOIS

Junior Mineral League
E. Johansen, Sec., Morgan Park Junior College, 2153 W. 11th St., Chicago.

MAINE

Maine Mineralogical and Geological Society
Miss Jessie L. Beach, Sec., 6 Allen Avenue, Portland.
Meets last Friday of the month at 8 p.m., at the Northeastern Business College, 97 Danforth Street, Portland.

MARYLAND

Natural History Society of Maryland
2103 N. Bolton Street, Baltimore.
Office hours, Tuesdays and Fridays, 10:00 a.m. to 5:00 p.m.

MASSACHUSETTS

Connecticut Valley Mineral Club
Leo D. Otis, Sec., 12 Clark St., Westfield, Mass.
Meets on the 1st Tuesday of each month at 8 p. m. at various institutions in the Connecticut Valley.

MISSOURI

National Geologist Club
Mrs. D. P. Stockwell, Pres., Mt. Olympus, Kimmswick.

NEVADA

Reno Rocks and Minerals Study Club
Mrs. Rader L. Thompson, Sec., Box 349, R2, Reno.
Meets on the 1st Wednesday of each month, at 7:30 p.m., at the Mackay School of Mines, Reno.

Western Nevada Mineral Society
A. Cornely, Sec.-Treas., P. O. Box 21764, Reno.

NEW JERSEY

Newark Mineralogical Society
William E. Simpson, Sec. 308 Grove Street, Montclair.
Meets on the 2nd Sunday of the month at 3 p.m. at Junior Hall, corner Orange and North 6th Streets, Newark.

New Jersey Mineralogical Society
O. B. J. Fraser, Sec.-Treas., 27 Stoneleigh Park, Westfield.
Meets on the 1st Tuesday of the month at 8 p.m. at the Plainfield Public Library.

NEW MEXICO

New Mexico Mineral Society
R. M. Burnet, Sec.-Treas., Carlsbad.
Society of Archaeology, History and Art
Carlsbad.

NEW YORK

Chislers, The
Miss Evelyn Waite, Sponsor, 242 Scarsdale Road, Crestwood, Tuckahoe.
Queens Mineral Society
Mrs. Edward J. Marcin, Sec., 46-30—190th Street, Flushing.
Meets on the 2nd Thursday of the month at 8 p.m. at 289 Etna Street, Brooklyn.

OKLAHOMA

Oklahoma Society of Earth Sciences
W. P. Smiley, Sec.Treas., 229 W. Jefferson Street, Mangum.
Meets on the 2nd Tuesday of each month, at 7:30 p.m., at the Historical Museum, Mangum.

PENNSYLVANIA

Thomas Rock and Mineral Club
Mrs. W. Hersey Thomas, Pres., 145 East Gorgas Lane, Mt. Airy, Philadelphia.
Meets on the 3rd Friday of each month, at 8:00 p.m., at the home of its president, Mrs. Thomas.

VERMONT

Mineralogical Society of Springfield
Victor T. Johnson, Sec., 11 Elm Terrace, Springfield.
Meets on the 3rd Wednesday of each month at 8:00 p.m. at the homes of members.

WASHINGTON

Gem Collectors Club
Mrs. Lloyd L. Roberson, Sec., 522 North 70th Street, Seattle.
Meets on the 1st and 3rd Tuesday of each month (except during the summer) at 8:00 p.m., at the Y. M. C. A.
Washington Agate and Mineral Society
Monroe Burnett, Sec., 802 S. Central St., Olympia.
Meets on the 1st Monday of the month, at 7:30 p.m. at the home of some member.

Collectors' Kinks

MOUNTING CABOCHONS

Many collectors have asked us from time to time for a good method for mounting cabochons. Mount them on thin cardboard using Scotch mending tape as a medium. (We use white, unruled, glossy cards, 3x5 inches in size).

Cut the Scotch tape into strips equal in length to that of the card (5 inches in the 3x5 size). Then lay the strips on the cards, sticky side up, and fasten them snugly to the edges of each card with small strips of the tape—these last about ½ inch long. The cards are now ready for the gems.

Lay the cabochons on the sticky tape and press firmly; the gems will adhere to the tape and will not fall off even if the cards are held upside down and shaken. Arrange the cabochons so as to have enough room under each for printing its name and locality. One, two or more strips may be attached to each card which when filled can be filed away or displayed in any manner feasible to the collector.

The tape does not harm the cabochons in any way and the latter may be easily removed if necessary.

Wm. Weber
H. Sussbach & Co.
New York City

Editor's Note: Mr. Weber sent us a 3x5 card containing one strip of Scotch tape on which were mounted 17 good-size cabochons. So firmly did the tape hold that the weight of the gems did not even cause it to sag in the middle.

CLASSIFIED ADVERTISEMENTS

WORLD'S BEST WANT AD. MEDIUM FOR MINERALS

Rate 5c per word; minimum 10 words. Remittance must accompany copy in all cases. Advertisers must furnish satisfactory references before their advertisements will be inserted. Forms close the 1st of every month.

BOOKS

Handbook For the Amateur Lapidary by J. H. Howard, 16 chapters covering all phases of gem cutting and polishing, 141 pp., 14 illus., price $2.00. J. H. Howard, 504 Crescent Ave., Dept. R., Greenville, S. C.

How to Collect Minerals. By Peter Zodac. A guide book for the collector. 80 pp., 15 ills., $1.00. Rocks and Minerals. Peekskill, N. Y.

Fifty Back Numbers of Rocks and Minerals Magazine, all in good condition and all different, $10.00. If you have back numbers send a list of them with your order and we will try not to duplicate any of them. Rocks and Minerals, Peekskill, N. Y.

History and Geology of the Royal Gorge, an illustrated souvenir booklet with maps and drawings locating 54 minerals for touring collectors. 50c postpaid. F. C. Kessler, Canon City, Colo.

FOSSILS

Fossils, Minerals, Old Arms, Indian Beaded Trappings. prehistoric specimens, general line of curios. Lists 10 cents. N. E. Carter, Elkhorn, Wisc

EXCHANGES

I WANT TO EXCHANGE MINERALS. CAN OFfer fayalite, forsterite, thorite, triphylite, heterosite, manganapatite for good specimens from other localities. Gunnar Bjareby, 147 Worthington St., Boston, Mass.

Wanted: In exchange for fine mineral specimens from our lists, Alexandrite, Bertrandite, Gadolinite, Hiddenite, Hambergite, Jalpaite, Mcfarlanite, Naumannite, Herderite, Leucophanite, Meliphanite, Helvite, Danalite, Trimerite. Co-op Minerals, 79 Goffe Street, New Haven, Conn.

Would Like to Exchange Minerals with other collectors. Correspondence invited. William F. Haeberle, R. F. D. 1, Box 110, Telford, Penna.

MINERALS

Millerite from Milwaukee, Wisconsin. Benedict P. Bagrowski, 1014 Vt., Lawrence, Kansas.

Beautiful Opals-Direct from Australia. Lapidaries Parcel, 10 ounces cutting opal, (about 50 stones) $10.00. Collectors specimens—good attractive parcels, 5.00, 10.00 Dozen small black opals $5.00. 10 ounces small opal chips $5.00. Illustrated catalogue No. 47 free. Natural History Books (thousands), lists free. Norman Seward, "Opal House," Melbourne, Australia.

Minerals, Fossils, Indian Relics, Books, Coins Curios, Stamps. Old Glass. Catalogue 5c. Indian Museum, Osborne, Kansas.

MINERALS

Scott Rose Quartz Co.—Rose Quartz, Black Hills specimens, all kinds and colors; for rock gardens, cabinets, etc. Boxes: 24 specimens, $1.00; 18 specimens, 50c; 15 specimens, 35c. Postage paid. Box 516, Custer, S. Dak. Send stamp for price list.

Superb Utah Azurite Specimens, $1.00, $1.50, $2.00. New Bingham Pyrite, $1.00, $2.00, $5.00. Postage. The Berryman Menage, 412 East 9th South, Salt Lake City, Utah.

Uvarovite—Choice specimens. Minute brilliant emerald-green crystals coating ore. For details write: H. Goudey, Jamestown, Calif.

New England minerals for sale or exchange. Correspondence solicited. Rudolf C. B. Bartsch, 36 Harrison St., Brookline, Mass.

Zircons: Genuine, diamond cut, blue and white, 3 for $1.75. Opals, genuine, 12 for $1.50. If interested in special stones kindly advise. B. Lowe, Box 525, Chicago, Ill.

Mineral Specimen Cabinets—15 to 100 specimens. Prices 35c to $10.00. Cabinet specimens—free price list. Charles O. Scott, 739 Colorado Ave., Trinidad, Colorado.

PYROMORPHITE—Green xls encrusting quartz. 10c to $1.00. Dekro Mineral Company, 7029 Lincoln Drive, Philadelphia, Pennsylvania.

Beautiful and unusual satin spar xls like stems, branches and flowers and curved ribbons. Priced from 25c to $5.00 each. Frank Duncan, Box 63, Terlingua, Texas.

Gem quality Washington carnelian, beautifully polished slabs, 15c per square inch. Unpolished 10c. Harry Fritz, 707 N. 65th St., Seattle, Wash.

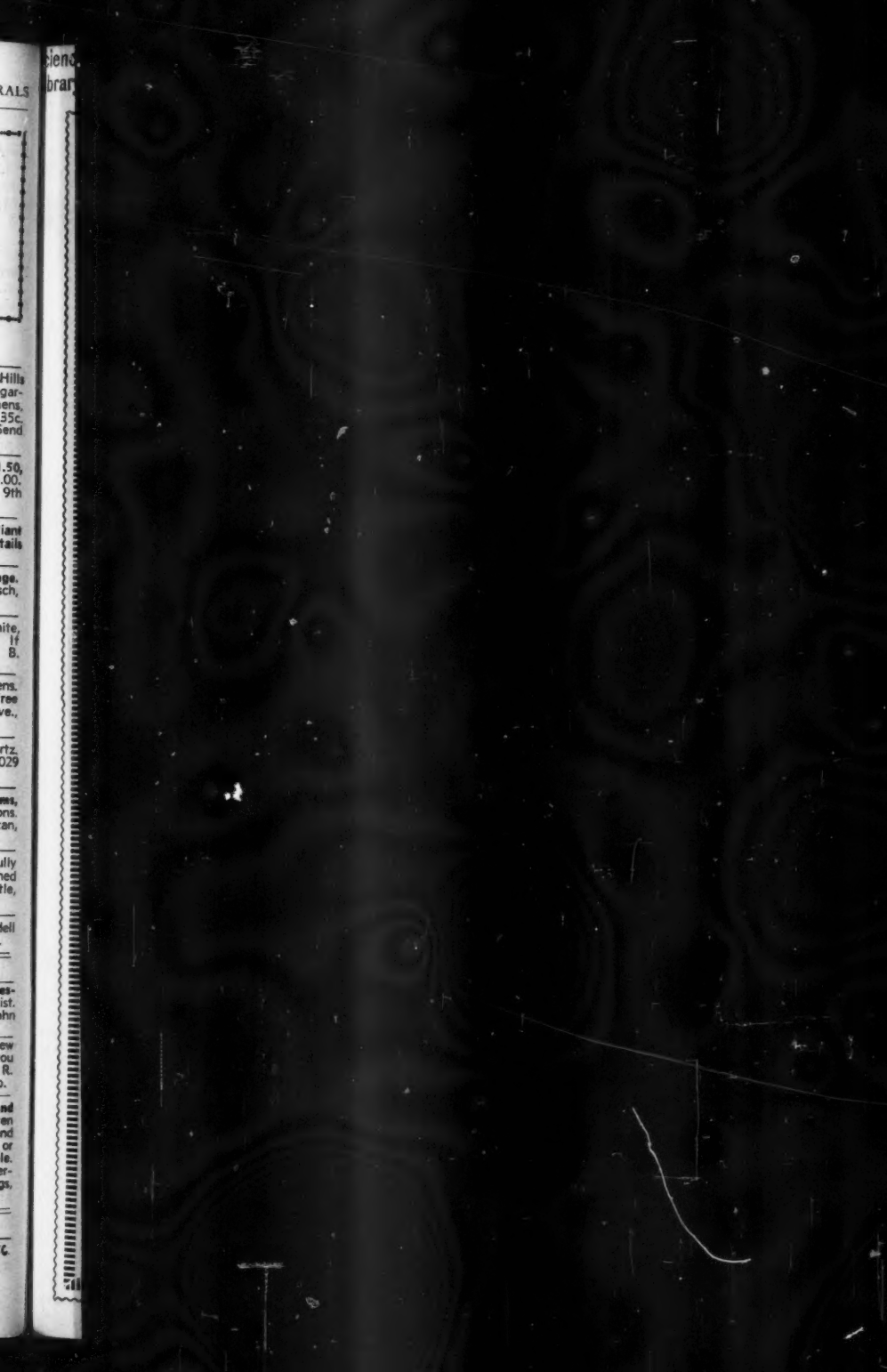
Mexican Fire Opal Cabochons—3 for 25c. Wendell Stewart, 108 Colorado, Monrovia, California.

FLUORESCENT MINERALS

Franklin, N. J., Minerals. Fluorescent. Phosphorescent. Rare. 25-50-75-$1.00. Send for list. Museum specimens quoted upon request. John Albanese, P. O. Box 281, Newark, N. J.

Snow White Calcite—Fluoresces green. Rare. Few pieces available, 3x4—$3.00. Hurry if you want one. Couple museum specimens. Dr. R. E. Anderson, Box 575, Deming, New Mexico.

Fluorescent calcite mixed with sphalerite and galena. I have been mining specimens for ten years and this is the only calcite I have found which will fluoresce under the black bulb or quartz light and only a small quantity available. For sale or trade for good willemite or wernerite J. A. Robertson, Box 105, Baxter Springs, Kansas.

SPECTROSCOPES

Spectroscope For Quick Ore Analysis $2.50. Cuffing Sons, Campbell, Calif.